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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/970,084	10/04/2001	Naoki Takahashi	50023-153	9518

20277 7590 04/21/2005

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EXAMINER

BAKER, CHARLOTTE M

ART UNIT	PAPER NUMBER
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2626

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

09/970,084

Applicant(s)

TAKAHASHI ET AL.

Examiner

Charlotte M Baker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3,7,8,10-13 and 15-22 is/are rejected.
- 7) ☒ Claim(s) 4-6, 9, and 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/04/2001</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

See MPEP § 608.01(b)

Claim Objections

3. Claim 12 is objected to because of the following informalities: replace "by scanning image data in one or a plurality of directions, said image data outputted from said image sensor, and recognizes document edge point on the basis of positional information acquired by scanning in different directions" with "--by scanning image data in one or a plurality of directions, said image data outputted from said image sensor, and recognizes document edge point on the basis of positional information acquired by scanning in one direction or in different directions--".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. Claims 7 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Examiner is unclear regarding what Applicant is claiming in reference to “straight line passing”. Applicant does not make reference to this limitation in the Specification.

5. Claim 8 recites the limitation "the object probable edge point". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2, 7-8, 10, 12-13, 15-20, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugiura (5,068,913).

Regarding claim 1: Sugiura discloses contour detecting means (CCD 20 and col. 6, ln. 14) for detecting a pixel (pixel, col. 6, ln. 24-26) with the quantity of change in density higher than a threshold value (location of the edge of a document is detected as the point where the density changes from the white level to the black level, col. 5, ln. 57-59 and Fig. 6a and 6b) as probable edge point (left and right edge of image initial values, col. 6, ln. 24-25) thought to be a document edge point (detection of image area of document 6, Fig. 2, a-d), and contour correction means (Fig. 6b, P153, effective image signal enabled) for recognizing the document edge point

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(detection of image area of document 6, Fig. 2, a-d) indicating the position of the document edge on the basis of the position of said probable edge point (left and right edge of image initial values, col. 6, ln. 24-25).

Regarding claim 2: Sugiura satisfies all the elements of claim 1. Sugiura further discloses wherein said contour detecting means (CCD 20 and col. 6, ln. 14) is provided with density change calculating means (Fig. 6a, and 6b flow and detection of image area by using data stored in the line RAM 50, col. 6, ln. 18-19) for working out the quantity of change in density (black level or white level) on the basis of the image density of the pixels around an object pixel (pixel of CCD 20).

Regarding claim 7: Sugiura satisfies all the elements of claim 1. Sugiura further discloses wherein said contour correction means (Fig. 6b, P153, effective image signal enabled) determines as permissible scope a scope of a specific distance in the reading line direction (an image area is detected by CCD 20 by moving the scan position of CCD 20 successively from the top edge 7f to the bottom of the document in the subscan direction, col. 6, ln. 14-17) from straight line passing (flow is repeated per each main scan through subscanning, col. 6, ln. 20-21) said two probable edge points (left and right edge of image initial values, col. 6, ln. 24-25) a specific number of reading lines apart from each other (top and bottom positions of the pixel of CCD 20, col. 6, ln. 25-26), and recognizes said probable edge points (left and right edge of image initial values, col. 6, ln. 24-25) present in said permissible scope as said document edge points (detection of image area of document 6, Fig. 2, a-d).

Regarding claim 8: Sugiura satisfies all the elements of claim 1. Sugiura further discloses wherein said contour correction means (Fig. 6b, P153, effective image signal enabled)

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determines as permissible scope a scope of a specific distance in the reading line direction (an image area is detected by CCD 20 by moving the scan position of CCD 20 successively from the top edge 7f to the bottom of the document in the subscan direction, col. 6, ln. 14-17) from a probable edge point detected on the reading line (left and right edge of image initial values, col. 6, ln. 24-25) a specific number of reading lines apart (top and bottom positions of the pixel of CCD 20, col. 6, ln. 25-26) from the object probable edge point (Examiner interprets this to be probable edge point due to lack of antecedent basis, left and right edge of image initial values, col. 6, ln. 24-25), and recognizes said probable edge point (left and right edge of image initial values, col. 6, ln. 24-25) as document edge point (detection of image area of document 6, Fig. 2, a-d) when said object probable edge point (left and right edge of image initial values, col. 6, ln. 24-25) is present in said permissible scope (an image area is detected by CCD 20 by moving the scan position of CCD 20 successively from the top edge 7f to the bottom of the document in the subscan direction, col. 6, ln. 14-17).

Regarding claim 10: Sugiura satisfies all the elements of claim 1. Sugiura further discloses wherein in a reading line (line in scan process) where said document edge point (detection of image area of document 6, Fig. 2, a-d) is not recognized (data is black level, col. 6, ln. 29-31), said contour correction means (Fig. 6b, P153, effective image signal enabled) recognizes a specific pixel (pixel of CCD 20) belonging to said reading line (line in scan process) as document edge point (detection of image area of document 6, Fig. 2, a-d) on the basis of document edge points (detection of image area of document 6, Fig. 2, a-d) recognized on other reading lines (col. 6, ln 35-40).

Regarding claim 12: Sugiura satisfies all the elements of claim 1. Sugiura further discloses wherein said contour correction means (Fig. 6b, P153, effective image signal enabled) acquires positional information (col. 6, ln. 22-26) on said probable edge point (left and right edge of image initial values, col. 6, ln. 24-25) by scanning image data in one or a plurality of directions (col. 6, ln. 18-21), said image data outputted from said image sensor (CCD 20), and recognizes document edge point (detection of image area of document 6, Fig. 2, a-d) on the basis of positional information acquired by scanning in different directions (main scan and subscan, col. 6, ln. 18-21).

Regarding claim 13: Sugiura satisfies all the elements of claim 12. Sugiura further discloses wherein when said probable edge point (left and right edge of image initial values, col. 6, ln. 24-25) is not detected (data is black level, col. 6, ln. 29-31) on a specific number of consecutive reading lines counted from the object reading line (initial values, left and right edge of the image, col. 6, ln. 24-26) in a specific direction (top and bottom positions of the pixel of the CCD 20, col. 6, ln. 25-26) where said probable edge point is detected (left and right edge of image initial values, col. 6, ln. 24-25), said contour correction means (Fig. 6b, P153, effective image signal enabled) scans the image data in an opposite direction (col. 7, ln. 30-34), said image data outputted from said image sensor (CCD 20) (Fig. 3, data is at the output of image sensor (CCD 20)).

Regarding claim 15: Sugiura satisfies all the elements of claim 1. Sugiura further discloses thinning out means for recognizing a representative value (black level or white value) on the basis of positional information (an image area is detected by CCD 20 by moving the scan position of CCD 20 successively from the top edge 7f to the bottom of the document in the

subscan direction, col. 6, ln. 14-17) on said probable edge point detected (left and right edge of image initial values, col. 6, ln. 24-25) on one or a plurality of reading lines (main scan and subscan operations) and contour correction means (Fig. 6b, P153, effective image signal enabled) for recognizing the document edge point (detection of image area of document 6, Fig. 2, a-d) on the basis of said representative value (black level or white level).

Regarding claim 16: Sugiura satisfies all the elements of claim 15. Sugiura further discloses wherein said representative value (black level or white level) is a middle point (black level or white level is the basis of the determination of document edge) between said two probable edge points (left and right edge of image initial values, col. 6, ln. 24-25).

Regarding claim 17: Sugiura satisfies all the elements of claim 1. Sugiura further discloses which is provided with signal generating means (Fig. 3, output circuit 54) for generating effective width signals (col. 3, ln. 62-64) indicating the document contour (actual image area) on the basis of said document edge point (detection of image area of document 6, Fig. 2, a-d) and image forming means (external apparatus 60, col. 3, ln. 59-62) for generating an image within the document contour (actual image area) on the basis of image data outputted from said image sensor (CCD 20) and said effective width signals (effective image signal, Fig. 3, and col. 3, ln. 62-64).

Regarding claim 18: Sugiura satisfies all the elements of claim 1. Sugiura further discloses which is provided with output substitution means (Fig. 3, effective image signal) for detecting the outside of the document contour of image data (detected as a black frame, col. 5, ln 60-64) outputted from said image sensor (CCD 20) on the basis of said document edge point (detection of image area of document 6, Fig. 2, a-d), substituting the image data outside said document

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contour (detected as a black frame, col. 5, ln. 60-64) with a white image and outputting the data (this is evidenced by the effective image signal which indicates that the image signal is of an actual image area (black frame not present), col. 3, ln. 56-64).

Regarding claim 19: Sugiura satisfies all the elements of claim 1. Sugiura further discloses which is provided with image data substituting means (Fig. 3, effective image signal) for detecting the outside of the document contour of image data (detected as a black frame, col. 5, ln. 60-64) on the basis of said document edge point (detection of image area of document 6, Fig. 2, a-d), said image data stored in image memory (Fig. 3, line RAM 50) for storing image data outputted from said image sensor (CCD 20), and substituting the image data outside said document contour with a white image (this is evidenced by the effective image signal which indicates that the image signal is of an actual image area (black frame not present), col. 3, ln. 56-64).

Regarding claim 20: Sugiura satisfies all the elements of claim 1. Sugiura further discloses which is provided with document image reading means (Fig. 1, image reader and col. 2, ln. 45-46) for detecting the document contour of image data (actual image area) on the basis of said document edge points (detection of image area of document 6, Fig. 2, a-d), said image data stored in said image memory (Fig. 3, line RAM 50), and outputting the image data (actual image area) within said detected document image contour only (Fig. 3, effective image signal).

Regarding claim 22: Sugiura discloses contour detecting means (CCD 20 and col. 6, ln. 14) for detecting a pixel (pixel, col. 6, ln. 24-26) as probable edge point (left and right edge of image initial values, col. 6, ln. 24-25) thought to be a document edge point (detection of image area of document 6, Fig. 2, a-d), said pixel having a higher quantity of change in density than the

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threshold value (location of the edge of a document is detected as the point where the density changes from the white level to the black level, col. 5, ln. 57-59 and Fig. 6a and 6b), and contour correction means (Fig. 6b, P153, effective image signal enabled) for recognizing a document edge point (detection of image area of document 6, Fig. 2, a-d) indicating the position of the document edge on the basis of the position of said probable edge point (left and right edge of image initial values, col. 6, ln. 24-25).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura in view of Houjiyou et al. (4,929,844).

Regarding claim 3: Sugiura satisfies all the elements of claim 2. Sugiura further discloses contour detecting means (CCD 20 and col. 6, ln. 14) for detecting an object pixel (pixel of CCD 20) as said probable edge point (left and right edge of image initial values, col. 6, ln. 24-25); in the direction of scanning (main scan, col. 3, ln. 36) are binarized on a specific slice level (A/D converter connected to shading circuit 46 and binarized data are stored in line RAM 50 and col. 3, ln. 30-37).

Sugiura fails to specifically address a judgement means or the case of the respective pixel values are identical.

Houjiyou et al. disclose judgement means (paper-size detecting section A through D); and if the values of the respective pixels are identical when the densities of a specific number of consecutive pixels (determining if document is truly present or if light getting in has caused an erroneous determination col. 4, ln. 21-57).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to include the paper-size detecting section A through D of Houjiyou et al. with the CCD 20 of Sugiura in order to automatically detect the presence or absence of a document as taught by Houjiyou et al. (col. 1, ln. 11-12). Additionally, to include the case of ensuring that the level is detected correctly to ensure that the document is present and a detection was not caused due to light getting in. This feature would also enable automatic detection of the presence or absence of the document.

10. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura in view of Migita et al. (4,870,457).

Regarding claim 21: Sugiura satisfies all the elements of claim 1. Sugiura further discloses and, in case the document cover is opened (col. 5, ln. 62), actuates said contour detecting means (CCD 20 and col. 6, ln. 14); said image sensor (CCD 20) from outside .

Sugiura fails to specifically address closing and opening detection means.

Migita et al. disclose which is provided with closing and opening detection means (Fig. 4, detector 7 OCSW) for detecting a document cover to prevent light from reaching and the opening and closing of said document cover.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to include detector 7 of Migata et al. connected to the CPU 42 of Sugiura in order to

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eliminate unwanted black areas at the edges of an image as taught by Migata et al. (col. 1, ln. 13-14).

Allowable Subject Matter

11. Claims 4-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and overcoming the 35 U.S.C. 112, second paragraph rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlotte M Baker whose telephone number is (571)272-7459. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A Williams can be reached on (571)272-7471. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CMB

KAW Williams
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SUPERVISORY PATENT EXAMINER